

## WHAT IS CLAIMED IS:

1. A method of preventing or treating rejection of a grafted cell, tissue, or organ in a mammal comprising administering to the mammal a composition comprising a purified complex consisting essentially of a heat shock protein noncovalently bound to an antigenic molecule, wherein the composition does not comprise a heat shock protein that is an alloantigen of the grafted cells, tissue, or organ.
2. A method of preventing or treating rejection of a grafted cell, tissue, or organ in a mammal comprising administering to the mammal a composition comprising a purified complex consisting essentially of a heat shock protein noncovalently bound to an antigenic molecule, wherein the heat shock protein or the antigenic molecule is autologous to said mammal.
3. A method of preventing or treating rejection of a grafted cell, tissue, or organ in a mammal comprising administering to the mammal a composition comprising a purified complex consisting essentially of a heat shock protein noncovalently bound to an antigenic molecule, wherein the heat shock protein is obtained from a cell, tissue or organ different from the grafted cell, tissue, or organ.
4. A method of preventing or treating rejection of a grafted cell, tissue, or organ in a mammal comprising administering to the mammal a composition comprising a purified complex consisting essentially of a heat shock protein noncovalently bound to an antigenic molecule, wherein the heat shock protein is obtained from a cell line different from the grafted cell, tissue, or organ.
5. A method of treating rejection of a grafted cell, tissue, or organ in a mammal comprising administering to the mammal a composition comprising a purified heat shock protein which is substantially free of complexed antigenic molecule, wherein the heat shock protein is not cpn10.

6. The method of Claim 5, wherein the heat shock protein is not an alloantigen of the grafted cells, tissue, or organ.

5 7. The method of Claim 1, 2, 3, 4, or 5, wherein the grafted cell, tissue, or organ is skin, liver, kidney, heart, bone marrow, pancreas, lung, cornea, cartilage, or a cell derived therefrom.

8. The method of Claim 7, wherein the grafted cell or tissue is skin or a cell derived from skin.

10 9. The method of Claim 1, 2, 3, 4, or 5, wherein the heat shock protein is mammalian.

10. The method of Claim 9, wherein the heat shock protein is human.

15 11. The method of Claim 9, wherein the heat shock protein is gp96.

12. The method of Claim 9, wherein the heat shock protein is hsp70.

13. The method of Claim 9, wherein the heat shock protein is hsp90.

20 14. The method of Claim 1, 2, 3, 4, 5, or 6, wherein the mammal is human.

15. The method of Claim 1, 2, 3, 4, or 5, wherein the heat shock protein is autologous to the mammal.

25 16. The method of Claim 1, 2, 3, 4, or 5, wherein the heat shock protein is not obtained from or syngeneic to the donor of the grafted cell, tissue, or organ.

17. The method of Claim 1, 2, 3, or 4, wherein the antigenic molecule is not obtained from or syngeneic to the donor of the grafted cell, tissue, or organ.

18. The method of Claim 1, 2, 3, 4, or 5, comprising  
5 administering the heat shock protein before the cell, tissue, or organ is grafted.

19. The method of Claim 1, 2, 3, 4, or 5, comprising administering the heat shock protein after the cell, tissue, or organ is grafted.

10 20. The method of Claim 1, 2, 3, 4, or 5, wherein the amount of the heat shock protein present in the composition is in a range of 5  $\mu$ g to 5,000  $\mu$ g.

21. The method of Claim 1, 2, 3, 4, or 5, wherein the amount of the heat shock protein present in the composition  
15 is 100  $\mu$ g or more.

22. The method of Claim 1, 2, 3, 4, or 5, wherein the amount of the heat shock protein present in the composition is 200  $\mu$ g or more.

23. The method of Claim 18, further comprising  
20 administering to the mammal a sample of cells or tissue obtained from the cell, tissue, or organ donor prior to administration of the heat shock protein.

24. The method of Claim 1, 2, 3, 4, or 5, wherein the heat shock protein is not hsp60.

25 25. The method of Claim 1, 2, 3, 4, or 5, wherein the antigenic molecule is not a bacterial peptide.

26. The method of Claim 1, 2, 3, 4, or 5, wherein an additional molecule is not administered in or concomitantly with said composition, said additional molecule modulating  
30 the function of an immune system cell.

27. The method of Claim 26, wherein the additional molecule is a monoclonal antibody.

28. The method of Claim 26, wherein the additional molecule is a soluble receptor analogue.

5        ~~29.~~ A kit for use in treating rejection of a grafted cell, tissue, or organ comprising in a container a composition comprising a purified complex consisting essentially of a heat shock protein noncovalently bound to an antigenic molecule, and a composition comprising an  
10 immunosuppressive agent.

30. The kit of Claim 29, wherein the heat shock protein is not an alloantigen of the grafted tissue.

31. The kit of Claim 29, wherein the antigenic molecule is not an alloantigen of the grafted tissue.

15        ~~32.~~ A kit for use in treating rejection of a grafted cell, tissue, or organ in a mammal comprising in a container a composition comprising a purified heat shock protein which is substantially free of complexed antigenic molecule, wherein the heat shock protein is not cpn10, and a  
20 composition comprising an immunosuppressive agent.

33. The kit of Claim 32, wherein the heat shock protein is not an antigen of the grafted tissue or organ.

34. The kit of Claim 29, 30, 31, 32 or 33, wherein the heat shock protein is gp96, hsp70, or hsp90.

25        35. The kit of Claim 29 or 32, wherein the grafted tissue is skin.

36. The kit of Claim 29 or 32, wherein the heat shock protein is gp96, hsp70, or hsp90.

37. The kit of Claim 29 or 32, wherein the amount of the heat shock protein present in the container is in a range of 10 $\mu$ g to 500 $\mu$ g.

5 38. The kit of Claim 29 or 32, wherein the amount of the heat shock protein present in the container is in a range of at least 100  $\mu$ g.

39. The kit of Claim 29 or 32, wherein the immunosuppressive agent is selected from the group consisting of cyclosporine, azathioprine, mycophenolate mofetil, 10 tacrolimus, corticosteroids, prednisone, cyclophosphamide, antilymphocyte globulin (ALG), antithymocyte globulin (ATG), and orthoclone OKT3.

40. A method of preventing or treating rejection of a grafted cell, tissue, or organ in a mammal comprising 15 administering to the mammal a composition comprising a purified complex consisting essentially of a heat shock protein noncovalently bound to an antigenic molecule, wherein the composition does not comprise any of said complex wherein said antigenic molecule is an alloantigen of the grafted 20 cells, tissue, or organ.